

What is claimed is:

1 1. A handwritten character recognition apparatus  
2 having a character string input area of a size that allows  
3 a plurality of characters to be handwritten thereon for  
4 a user to input a handwritten character string, comprising:  
5       a coordinate string detection unit operable to detect  
6 a coordinate string of each stroke that makes up an input  
7 handwritten character string,  
8       an input completion judgement unit operable to judge,  
9 when a first coordinate of one of the strokes is detected  
10 in a first area which is at a side of the character string  
11 input area where writing of the handwritten character  
12 string starts, whether an input of an immediately preceding  
13 handwritten character string is complete, and  
14       a segmentation recognition unit operable to segment,  
15 when the input completion detection unit judges the input  
16 to be complete, stroke strings for each character from all  
17 the strokes of the immediately preceding handwritten  
18 character string, recognize each character, and output a  
19 character string which is a recognition result.

1 2. A handwritten character recognition apparatus  
2 according to Claim 1, wherein the input completion

3 judgement unit includes:

4 a first coordinate judgement unit operable to judge,  
5 when an X value of a first coordinate of a stroke is X1  
6 or less, X1 being a width of the first area, that the first  
7 coordinate is in the first area.

1 3. A handwritten character recognition apparatus  
2 according to Claim 2, wherein the input completion  
3 judgement unit further includes:

4 an X1 setting unit operable to receive a value of X1  
5 according to a size of a handwritten character written by  
6 the user, the first coordinate judgement unit judging  
7 according to the received value of X1.

1 4. A handwritten character recognition apparatus  
2 according to Claim 1, wherein the input completion  
3 judgement unit includes:

4 an input time measurement unit operable to measure  
5 a first input time which is an input time of a first  
6 coordinate of each stroke, and a second input time which  
7 is an input time of a last coordinate of each stroke, and  
8 a time judgement unit operable to judge, when a time  
9 difference between the first input time of a stroke and  
10 a second input time of an immediately preceding stroke is

11 at least a predetermined time, that the input of the  
12 immediately preceding handwritten character string is  
13 complete.

1 5. A handwritten character recognition apparatus  
2 according to Claim 4, wherein the input completion  
3 judgement unit includes:

4 a judgement time setting unit operable to receive a  
5 setting of a predetermined time according to a speed of  
6 input of handwriting of the user, the time judgement unit  
7 judging that the input of the immediately preceding  
8 handwritten character string is complete when the input  
9 thereof ceases for at least the predetermined time.

1 6. A handwritten character recognition apparatus  
2 according to Claim 1, wherein the input completion  
3 judgement unit includes:

4 a stroke area judgement unit operable to judge that  
5 the input of the immediately preceding character string  
6 is complete when a first coordinate of a stroke thereof  
7 is in a second area which is an area at the opposite side  
8 of the character string input area to the first area.

1 7. A handwritten character recognition apparatus

2 according to Claim 6, further comprising:

3 a display unit, positioned under a transparent tablet  
4 which makes up the character string input area, operable  
5 to successively display strokes by linking the coordinates  
6 of each coordinate string detected by the coordinate string  
7 detection unit by line segments, and

8 an area display control unit operable to control a  
9 display state of the display unit so as make the first area  
10 and the second area visually recognizable.

1 8. A handwritten character recognition apparatus  
2 according to Claim 1, further comprising:

3 a display unit operable to display a stroke by linking  
4 the coordinates of each coordinate string successively  
5 detected by the coordinate string detection unit, and  
6 an erasing unit operable to erase all strokes that  
7 make up the immediately preceding handwritten character  
8 string when the input completion judgement unit judges the  
9 input thereof to be complete.

1 9. A handwritten character recognition apparatus  
2 according to Claim 1, further comprising:

3 a display unit, positioned under a transparent tablet  
4 which makes up the character string input area, operable

5 to successively display strokes by linking coordinates  
6 detected by the coordinate value detection unit by line  
7 segments, the coordinate string detection unit being a  
8 transparent tablet, and

9       a first area display control unit operable to control  
10 a display state of the display unit so as make the first  
11 area and the second area visually recognizable.

1 10. A handwritten character recognition apparatus  
2 having a character string input area of a size that allows  
3 a plurality of characters to be handwritten thereon for  
4 a user to input a handwritten character string, comprising:

5       a coordinate string detection unit operable to detect  
6 a coordinate string of each stroke that makes up an input  
7 handwritten character string,

8       a display unit, positioned under a transparent tablet  
9 which makes up the character string input area, operable  
10 to successively display strokes by linking coordinates  
11 detected by the coordinate value detection unit by line  
12 segments, the coordinate string detection unit being a  
13 transparent tablet,

14       a first line segment erasing unit operable to erase  
15 line segments displayed in a judgement area which is an  
16 area a predetermined distance apart from the last

17 coordinate of a stroke detected by the coordinate string  
18 detection unit in a direction towards the side of the  
19 character string input area where writing of the  
20 handwritten character string starts,

21 an input completion judgement unit operable to judge,  
22 when the coordinate string detection unit detects the first  
23 coordinate of a stroke in the judgement area, that an input  
24 of an immediately preceding handwritten character string

25 is complete,

26 a second line segment erasing unit operable to erase  
27 remaining line segments from the character string input  
28 area, excluding the line segments in the judgement area,  
29 and

30 a segmentation recognition unit operable to segment,  
31 when the input completion detection unit judges the input  
32 to be complete, stroke strings for each character from all  
33 the strokes of the immediately preceding handwritten  
34 character string, recognize each character, and output a  
35 character string which is a recognition result.

1 11. A program for use with a handwritten character  
2 recognition apparatus having a character string input area  
3 of a size that allows a plurality of characters to be  
4 handwritten thereon for a user to input a handwritten

5 character string, the program realizing on a computer:  
6       a coordinate string detection unit operable to detect  
7 a coordinate string of each stroke that makes up an input  
8 handwritten character string,  
9       an input completion judgement unit operable to judge,  
10 when a first coordinate of one of the strokes is detected  
11 in a first area which is at a side of the character string  
12 input area where writing of the handwritten character  
13 string starts, whether an input of an immediately preceding  
14 handwritten character string is complete, and  
15       a segmentation recognition unit operable to segment,  
16 when the input completion detection unit judges the input  
17 to be complete, stroke strings for each character from all  
18 the strokes of the immediately preceding handwritten  
19 character string, recognize each character, and output a  
20 character string which is a recognition result.

1 12. A computer-readable recording medium for use with a  
2 handwritten character recognition apparatus having a  
3 character string input area of a size that allows a  
4 plurality of characters to be handwritten thereon for a  
5 user to input a handwritten character string, the medium  
6 recording a program that realizes on a computer:  
7       a coordinate string detection unit operable to detect

8 a coordinate string of each stroke that makes up an input  
9 handwritten character string,

10 an input completion judgement unit operable to judge,  
11 when a first coordinate of one of the strokes is detected  
12 in a first area which is at a side of the character string  
13 input area where writing of the handwritten character  
14 string starts, whether an input of an immediately preceding  
15 handwritten character string is complete, and

16 a segmentation recognition unit operable to segment,  
17 when the input completion detection unit judges the input  
18 to be complete, stroke strings for each character from all  
19 the strokes of the immediately preceding handwritten  
20 character string, recognize each character, and output a  
21 character string which is a recognition result.